Controlled Pesticide

Wisconsin Hearing on Bid to Ban DDT Could Affect Future of All Such Products

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MADISON, Wis.—The agricultural chemical industry is under attack—again.

Ever since 1962 it has led a somewhat harried existence. That was the year the late Rachel Carson's best seller, "Silent Spring," appeared, alleging widespread, indiscriminate use of pesticides produced by the industry. Now, as before, the issue is pesticides, this time specifically 1,1,1-trichloro-2,2-bis (p-chlorophenyl) ethane—better known as DDT.

The battle is being waged on several fronts. Last summer, Illinois, Wisconsin, Michigan and Indiana signed an agreement calling for stricter controls on all pesticides, DDT included, that are polluting Lake Michigan. The Illinois legislature is considering a bill banning the use of DDT. In Pennsylvania, a state senate committee recommended a ban on its use in parks and forests. And Sen. Nelson (D., Wis.) says he plans again to seek legislation outlawing the insecticide nationally. "I think it's been clear for a long time to those scientists who are knowledgeable that DDT is having a devastating environmental effect," he says.

Hearing in Wisconsin

The sharpest fight of the campaign, however, is shaping up here, and its outcome could have an important bearing on the future of DDT and pesticides generally. Focal point of the confrontation is a hearing being conducted by the Wisconsin Department of Natural Resources on a petition to ban the use of the chemical in the state. The agency has jurisdiction over keeping the state's water resources free of pollution, and under state law it can, upon petition by interested parties, restrict or ban the use of any substance it finds to be fouling the water.

In November the department was petitioned by a group of Wisconsin conservationists called the Citizens Natural Resources Association. They were joined by the Wisconsin division of the Izaak Walton League. The two groups allege DDT is getting into the water from a variety of sources and is harming wildlife.

Hearings began in December and continued for 13 days, with about a dozen scientists appearing in support of a ban. Then the proceedings were recessed to allow the chemical companies time to prepare a defense. They are expected to begin presenting their case in a few weeks.

The case is of more than passing interest. Since "Silent Spring" appeared, research has turned up new evidence suggesting DDT may cause cancer, and possibly harm us too, in presently unsuspected ways. The hearings mark the first time many of the findings have been examined in any but pesticide makers' forums. Wisconsin finds the evidence sufficiently persuasive to ban or severely limit the use of DDT, conservationists and other DDT opponents can be expected to carry their fight against DDT to other states.

Moreover, if the campaign against DDT is successful, the resulting precedent should help other anti-pesticide activists. Possibly, the heart of the industry's opposition is the group of scientists that has waged a steady battle against DDT and similar insecticides, chiefly in the courts, ever since it was formed in October 1967.

It has met only limited success in the courts, but its lawsuits against state and local agencies haven't been totally ineffectual. Among other things, the pressure the suits have generated is credited with prompting more than 50 cities in Michigan to stop using DDT against the Dutch elm disease.

The industry is fighting back through a DDT task force, organized several years ago under the aegis of the National Agricultural Chemicals Association to contain the brush fires ignited by DDT's opponents. Most of its members are the companies that make DDT: Diamond Shamrock Corp., Allied Chemical Corp., Olin Mathieson Chemical Corp., Lebanon Chemical Corp., a privately held company; and Montrose Chemical Corp. of California, the largest maker. Montrose is owned jointly by Chris-Craft Industries Inc. and Stauffer Chemical Co. A sixth member, Geigy Chemical Corp., Ardsley, N.Y., doesn't make DDT.

Caught Off Balance

Thus, the industry is well organized to defend itself, but the Wisconsin attack seemingly caught it off balance. The task force didn't retain an attorney to represent it at the hearings until less than a week before they opened, and it apparently had almost no idea of what it would face in Madison. "Frankly, nobody knew what kind of hearing this was," says Louis A. McLean, the attorney finally picked by the task force. "We though it would be something like a legislative hearing, where people get up and make statements of position." Mr. McLean is a long-time industry spokesman, who until he retired in July 1967 was secretary and general counsel for Velsicol Chemical Co., pesticide maker and Northwest Industries Inc. subsidiary.

In the past, pesticide manufacturers sometimes have tried to dismiss their critics as food faddists and neurotics. For example, in 1967 Mr. McLean wrote ". . . the antipesticide people in almost every instance hold numerous beliefs in nutritional quackery and medical quackery, and they oppose public health programs."

The characterization ranked many of the scientists involved here, leading some to suggest that the industry this time has underestimated its opposition. Indeed, the Environmental Defense Fund and its attorney, Victor J. Yannacone Jr., have spearheaded the case against DDT with expert testimony from reputable scientists brought in from all over the country.

Included are fishery and wildlife biologists, biochemists, an organic chemist, a pharmacologist and an entomologist. Through its scientists [illegible] headed by Charles F. Wurster Jr., associate professor at the State University of New York at Stony Brook, the EDF has [illegible] its reception a pool of [illegible] which questions or testimony [illegible]

[illegible]

harmful use. Besides, industry spokesmen say, DDT is safe. It must be approved by the Federal Government, they assert, and the Governmental agencies involved—the departments of Agriculture and Interior and the Food and Drug Administration—wouldn't approve any agent harmful to humans or wildlife.

The industry backs up its contentions on safety by citing a study of Montrose Chemical employes at a DDT plant. The study reports the employes are exposed to much higher levels of DDT than is the general public, yet they don't show any signs of harmful effects.

Possible Effect on Humans

So far, the issue of DDT's effects on humans hasn't been raised directly in the hearings. It was touched on briefly, though, by two witnesses. Richard Welch, a pharmacologist with Burroughs Wellcome & Co., a drug manufacturer, said the sex hormones affected in rats by the DDT-activated enzymes are the same ones found in man. He also explained that the amount of DDT needed to produce the effect "is within a range of DDT found in human fat. . . . thus, if one can extrapolate data from animals to man, then one would say that the change in these enzymes probably do occur in man."

And Robert Risebrough, a biologist with the University of California's Marine Resources Institute, touched on the subject briefly in his testimony. "Our general point is that (the Food and Drug Administration) hasn't taken any consideration of the enzyme inducing capacity of these substances (DDT and similar pesticides). This is a decision which the FDA will have to make sometime in the near future. Will it permit an increase in the activity of these enzymes in our liver? No responsible person could now get up here and say that this constant nibbling away at our steroids (the sex hormones) is without any physiological effect. It would be irresponsible."

Finally, the industry can be expected to lay hard on DDT's public health uses and benefits. "Too many people forget we need DDT for control of mosquitoes that carry encephalitis and the world needs it to control malaria," says Mr. McLean.

Adds Samuel Rotrosen, chairman of the

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Moreover, if the campaign against DDT ... successful, the industry expects attacks ... similar insecticides. Finally, the loser here seems certain to appeal to the courts, ... the prospect of a precedent-setting ... decision.

...uld Affect Larger Market

The industry attempts to play down its fi... interest in the case. It says the DDT ... in Wisconsin in 1967 amounted to sales of ... $17,000. Even nationally, DDT volume ... Hayes. In 1...7, the largest period for which ... are available, sales totaled $13.7 mil... However, the larger market that the in... ...would be threatened if the DDT ... is upheld. It totals about $200 million ... —more than 20% of manufacturers' ... pesticide sales.

To bolster their attack, the Wisconsin conservationists enlisted the help of the Environmental Defense Fund, a small Long Island, N.Y.-based group comprised mainly of scientists for and Northwest Industries Inc. subsidiary.

In the past, pesticide manufacturers sometimes have tried to close the ranks as field fortifies and ...ranks. For example, in 1957 Mr. McLean wrote: "... the antipesticide people in almost every instance hold memberships in nutritional quackery and medical quackery, and they oppose public health programs."

The characterization rankles many of the scientists involved here, leading some to suggest that the industry this time has underestimated its opposition. Indeed, the Environmental Defense Fund and its attorney, Victor J. Yannacone Jr., have spearheaded the case against DDT with expert testimony from reputable scientists brought in from all over the country.

Included are fishery and wildlife biologists, botanists, an organic chemist, a pharmacologist and an entomologist. Through its scientists advisory committee, headed by Charles F. Wurster Jr., a biology professor at the State University of New York at Stony Brook, the EDF has built up since its inception a pool of about 100 scientists to furnish opinions or testimony. Not all EDF witnesses are members.

The EDF contends a complete ban on DDT is needed because even small amounts of the pesticide applied in the most rigidly controlled manner will still pollute the water and atmosphere. Mr. Wurster testified DDT is easily picked up from the soil and carried throughout the world on wind-born dust and water particles. Other witnesses testified DDT has been found in nearly every part of the world, including dust collected over the Indian and Atlantic oceans. It even has been detected in the penguins of Antarctica, they assert.

The widespread contamination is harming wildlife, not necessarily by killing it outright, but by producing subtle metabolic changes, unsuspected until recently, that are gradually eliminating various species, the scientists say. Kenneth Marek, a biologist for the U.S. Department of Interior's fish-pesticide laboratory at Columbia, Mo., reported his research shows that feeding low, sublethal doses of DDT to brook trout causes a higher mortality among their offspring and makes the trout more susceptible to environmental stresses.

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Adlai Stannel Holroyd, chairman of the

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Down to Pied Population

University of Wisconsin wildlife ecologist [illegible] Hickey testified that since 1950 there [illegible] a plunge in populations of birds of [illegible] such as the eagle, osprey and peregrine [illegible]. At first, scientists didn't know why, he [illegible]. Then in 1967 research showed the [illegible] were laying thinner-shelled eggs that [illegible] were breaking and failing to hatch. Because [illegible] change in eggshell thickness occurred after [illegible], the start of widespread DDT use, the scientists theorized that DDT somehow was upsetting the birds' calcium metabolism, which is involved in eggshell formation.

Messrs. Hickey, Wurster and others believe the theory now is well documented. During the hearings they explained how researchers quite by accident found that DDT, even in small amounts, activates certain liver enzymes in rats, rabbits and some birds. Enzymes generally control the body's chemical functions; those involved in this instance affect estrogen, a female sex hormone that plays a role in calcium metabolism. In this subtle way, they argue, DDT exacts its toll.

Additional support came from Lucille Stickel at the Interior Department's Patuxent wildlife research center in Maryland. She told how she fed small amounts of DDT and DDE, a breakdown product of DDT, to mallard ducks. The results were thinner eggshells and increased breakage, she said.

Although the industry hasn't yet presented its side of the story, talks with Mr. McLean and others give some indication as to what [illegible] will follow. Mr. McLean questions the [illegible] of those who criticized them. [illegible], for instance, that Mr. Wurster is an organic chemist, "but he was talking about things entirely unrelated to the field of chemistry. If a man wants his opinions respected, he should be qualified in the specialty in which he's speaking, and a scientist who's speaking outside his area of expertise is really no better qualified to foist an opinion than any person on the street."

Mr. McLean indicates the industry will call toxicologists and medical experts in its defense. "I think it's particularly interesting that although the EDF is basically talking about matters of health, it didn't bring one medical witness to the stand. And frankly I didn't expect them to, because I don't know of any medical toxicologist who's informed about pesticides who shares their fears."

DDT task force and general manager of Monsanto Chemical. [illegible]

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There's no way, of course, to tell yet how the Wisconsin Natural Resources Board will rule. But it may have given some indication of its attitude on the DDT question last year in one of its technical bulletins. "The use of any persistent pesticide (which includes DDT) remains a calculated risk. [illegible]

[illegible] Further, these residues may be harming a variety of animal life in many subtle ways, which will only become apparent through intensive research. To continue to use DDT . . . in the face of the present level of contamination would seem to be an invitation to disaster."

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